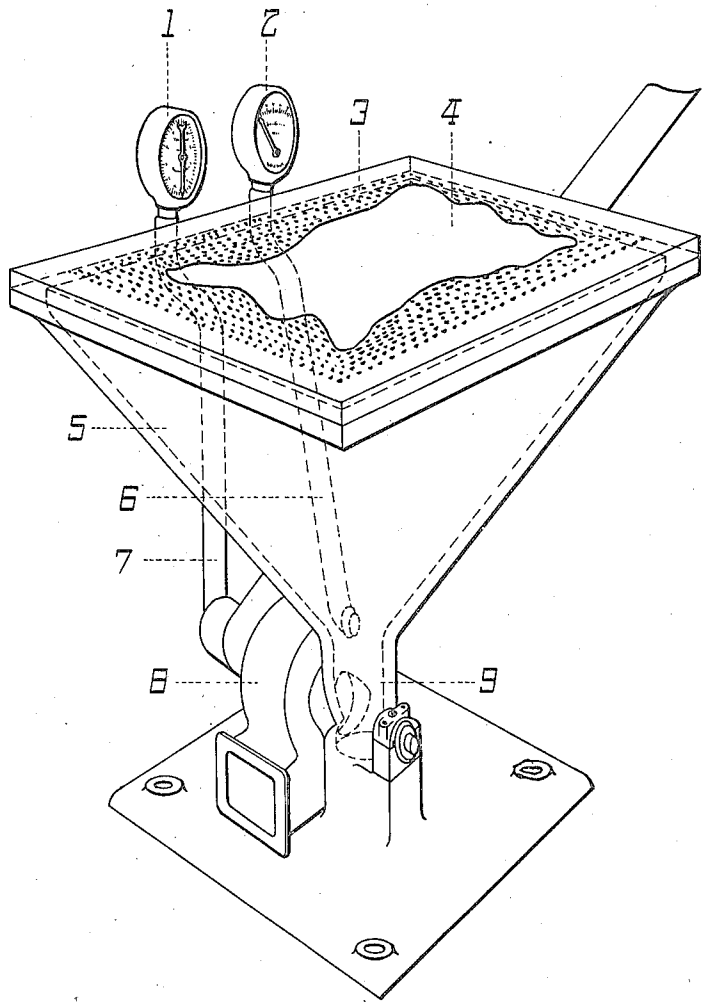
W. H. SCHULZE.

APPARATUS FOR MEASURING THE AREA OF HIDES.

APPLICATION FILED NOV. 13, 1914.

1,158,310. Patented Oct. 26, 1915.



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APPARATUS FOR MEASURING THE AREA OF HIDES.

1,158,310. Specification of Letters Patent. Patented Oct. 26, 1915.

Application filed November 13, 1914. Serial No. 872,014.

To all whom it may concern:

Be it known that I, WILHELM HEINRICH SCHULZE, a subject of the German Emperor, and resident of Frankfort-on-the-Main, Germany, have invented certain new and useful Improvements in Apparatus for Measuring the Area of Hides, of which the following is a specification.

The measuring of hides, that is the calculation of the area of the latter such as required in the leather trade, has been hitherto effected with the aid of measuring machines in a mechanical way. The present invention provides improved means by which said calculation can be made in a pneumatic way.

The accompanying drawing shows a perspective view of an apparatus embodying the present invention.

The construction of the improved machine is based on the fact that an air-current is sucked through a perforated plate 3 or a wire gauze by means of a fan 8. According to whether the plate 3 and thus part of the perforations of the same are covered more or less by the hide 4 to be measured, of course a corresponding reduction of the air-current cross-section happens. Thereby, a rarefaction of the air and thus a measurable sub-pressure of the same is created, which serves for the calculation of the area of the hide put on the plate.

Preferably, the perforated plate 3 is airtightly fixed on a funnel-shaped frame 5, which terminates in a cylindrical extension 9, which forms the supply-pipe for the fan, and further in a square foot-plate. At the bend between the funnel and the cylindrical extension, the pipe 6 for the vacuum gage 2 is attached. Besides, the axle of the fan is in communication with the tachometer 1 by means of a flexible shaft 7. Both instruments are arranged above the measuring plate 3, so that their oscillations can be easily read off.

Of course, the exactness of the calculation depends largely upon the suitability and careful manufacture of the plate 3, which must be of uniform thickness throughout and not too thin if drilled holes or perforations are employed, which latter must be of small bore and uniformly arranged therein as near as possible to each other. Thereby, small alterations of the boundary lines of the different hides can be calculated by the corresponding covering or uncovering of the holes in the plate.

If, instead of the drilled and thus rather thick plate 3, perforated sheet-metal or strong wire-gauze with fine interstices is used, a careful mounting and stretching on the frame 5 is necessary, in order to meet the air pressure if the greatest portion of the interstices is covered.

The walls of the funnel 5 must not be too much tapered, in order to permit of the single air-currents flowing uniformly through the funnel and thus to prevent the calculations from being made incorrect.

The result of the calculations can either be read off directly from the vacuum gage 2, or, if the latter has ordinary atmosphere division only, can be found by comparison with the tachometer from an empiric table provided for this purpose.

What I claim, is:—

Apparatus for measuring the area of hides, comprising in combination, a funnel-shaped frame having a lower cylindrical extension, a finely perforated top plate fixed on said frame, a fan in communication with said cylindrical extension adapted to suck air through said perforated top plate, a tachometer in communication with the axle of said fan, and a vacuum gage in communication with the lower end of said funnel, substantially as and for the purpose set forth.

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